

Telecommunications Tower

Business Name:		ABN:
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	



RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Governance, WHS Leadership & Legal Compliance	<ul style="list-style-type: none"> Lack of clear WHS governance structure for telecommunications tower operations Inadequate understanding of WHS Act 2011 and WHS Regulations by senior management Insufficient allocation of resources (time, budget, competent people) to manage tower risks Absence of documented WHS objectives, KPIs and due diligence processes for officers Poor integration of WHS duties into contracts, procurement and project approvals Failure to consult, cooperate and coordinate with PCBUs that share the tower or site 	4A	<ul style="list-style-type: none"> Establish a formal WHS governance framework defining officer due diligence obligations in line with WHS Act 2011 Integrate telecommunications tower risk management requirements into corporate WHS policy and strategic plans Define and document WHS roles, responsibilities and accountabilities for officers, managers, supervisors and workers involved with tower assets Ensure officers receive periodic training on WHS legislative duties, high-risk construction work, and electrical/radiation obligations Develop WHS performance indicators specific to tower operations (e.g. fall incidents, RF exposure exceedances, stress fractures) and review at executive level Embed WHS requirements into commercial agreements, leases and service contracts for co-located tenants and contractors Implement a documented process for consultation, cooperation and coordination with all PCBUs sharing towers, components or broadcast infrastructure 	3H
2. Tower Design, Structural Integrity & Engineering Assurance	<ul style="list-style-type: none"> Inadequate structural design for intended loading, including future antennas and broadcast equipment Lack of engineering consultation before assembly, disassembly or modification of broadcast towers Use of non-compliant/incompatible components (bolts, braces, guy wire foundations) Failure to consider wind loads, corrosion, fatigue and dynamic loading from antennas and mounts Incomplete or inaccurate design documentation and as-built drawings Inadequate change management when altering antenna layouts, cable runs or tower height 	4A	<ul style="list-style-type: none"> Ensure all tower designs comply with relevant Australian Standards (e.g. AS/NZS 1170 series, AS 3995, AS 4100, AS 1554) and applicable industry guidelines Require independent structural engineer certification for new towers, significant modifications, and major assembly/disassembly activities Maintain controlled engineering documentation including design calculations, drawings, materials specifications and welding procedures Implement a formal management of change process for any structural or loading alterations, including RF and broadcast hardware changes Standardise approved component specifications and prohibit substitution without engineering approval Conduct periodic structural integrity reviews, including foundation inspections and analysis of corrosion, deformation, cracking or loose connections Maintain tower registers with design capacity, maximum allowable loadings, and current load utilisation for planning of antenna changes 	2M
3. Asset Lifecycle Management & Preventive Maintenance Systems	<ul style="list-style-type: none"> Absence of a structured inspection and maintenance program for towers, guy wires, ladders and anchor points 	4A	<ul style="list-style-type: none"> Implement an asset management system that records all towers and associated infrastructure with unique identifiers and locations Develop and enforce a scheduled inspection and maintenance regime based on risk, age, environment and manufacturer recommendations 	2M

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	<ul style="list-style-type: none"> Deferred or reactive maintenance leading to structural degradation or component failure Inaccurate or incomplete asset data (age, materials, previous repairs, incidents) Failure to identify and manage corrosion, especially in coastal or industrial environments Lack of traceability for critical repairs and replacement parts Poor handover of maintenance records between owners, tenants and contractors 		<ul style="list-style-type: none"> Use competent persons for periodic tower condition assessments, including visual inspection, torque testing and non-destructive testing where required Apply a graded defect system with defined rectification timeframes for structural, corrosion and access-related findings Maintain comprehensive digital maintenance records, including photos, inspection reports, engineering assessments and work orders Standardise maintenance procedures for guy tensioning, bolt placement, coating systems and ladder/anchor inspections Verify maintenance completion and close-out through supervisor review and, where appropriate, engineer sign-off 	
4. Contractor Management & Competency of Tower Workforce	<ul style="list-style-type: none"> Engagement of contractors without demonstrated high-risk work competence for tower assembly or disassembly Inadequate verification of qualifications for working at heights, rigging, dogging, EWP and crane operations Subcontracting chains dilute WHS responsibilities and oversight Lack of formal instruction covering tower-specific hazards including RF and broadcast systems Insufficient supervision of inexperienced or new-to-work workers Inconsistent competency standards between different contractors and PCBUs on the same tower 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
5. WHS Risk Management, Planning & Permitting for Tower Works	<ul style="list-style-type: none"> Inadequate systematic risk assessment for assembly, disassembly and modification projects Failure to recognise tower work as high risk construction work under WHS Regulations Poor planning of lift studies, crane configurations and exclusion zones 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> No formal permit-to-work for working at heights, RF isolation or live-site modifications Insufficient consideration of public interface, traffic management and adjoining properties Inadequate review of weather conditions and environmental constraints in planning 		[REDACTED]	
6. Working at Heights Systems, Fall Protection & Rescue Planning	<ul style="list-style-type: none"> Lack of engineered fall protection systems on towers, ladders and access ways Reliance on personal fall-arrest equipment without appropriate rescue capability Inadequate inspection and management of harnesses, lanyards and anchor points Absence of documented tower-specific rescue procedures and equipment Inconsistent enforcement of no-climb rules and competency-based access Poor planning for medical access and emergency response from remote tower locations 	4A	[REDACTED]	2M
7. RF/EMF Exposure, Broadcast Systems & Antenna Management	<ul style="list-style-type: none"> Excessive RF/EMF exposure to workers due to energised broadcast antennas during maintenance or installation Inadequate RF hazard assessments and mapping for multi-tenant towers Lack of interlock or isolation procedures when working near active radiating elements Failure to coordinate power reductions, shutdowns or time-averaging with broadcast operators 	4A	[REDACTED]	2M

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	<ul style="list-style-type: none"> Insufficient labelling and demarcation of RF hazard zones on the tower and within compounds Limited worker competence in understanding RF exposure limits and control measures 		[REDACTED]	
8. Electrical, Earthing & Lightning Protection Systems	<ul style="list-style-type: none"> Inadequate earthing and bonding of tower, antennas, feeders and associated equipment Failure of lightning protection systems leading to damage or harm to workers Exposure to live electrical installations during assembly, modification or maintenance Poor segregation of power and communication cabling creating fault or fire risk Outdated or non-compliant switchboards, cabinets and supply circuits at tower compounds Lack of periodic testing and inspection of earthing resistance and surge protection devices 	4A	[REDACTED]	2M
9. Site Access, Security & Public Interface Management	<ul style="list-style-type: none"> Unauthorised access to tower compounds or ladders by public or untrained personnel Inadequate fencing, locks or signage allowing children or trespassers to climb Poor vehicle access routes creating collision, rollover or interaction with pedestrians Lack of control over visiting contractors, delivery drivers and inspectors Community complaints or conflict regarding noise, RF concerns or visual impact Inadequate management of works near public roads, rail corridors or neighbouring properties 	3H	[REDACTED]	2M

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10. Plant, Equipment & Lifting Systems Management	<ul style="list-style-type: none"> • Use of non-compliant or poorly maintained cranes, EWPs, winches and hoists for tower assembly or disassembly • Improper selection of lifting equipment for heavy antennas, feedlines and structural sections • Lack of inspection and certification of lifting gear such as slings, shackles and blocks • Uncontrolled interaction between mobile plant, towers and overhead services • Inadequate planning for simultaneous operations involving multiple lifting systems on or near the tower • Failure of temporary supports or lifting attachments during decommissioning or disassembly 	4A	[REDACTED]	2M
11. Environmental, Weather & Remote Area Risk Management	<ul style="list-style-type: none"> • Exposure to high winds, lightning, extreme temperatures and sudden weather changes while working on towers • Difficult access to remote or rugged sites increasing emergency response times • Fatigue due to long travel distance, remote rosters and extended shifts • Limited communications coverage for emergency contact during tower work • Wildlife risks including insects, snakes, birds or nesting in tower structures • Environmental damage from access tracks, spills or waste generated during projects 	3H	[REDACTED]	2M
12. Information, Document Control & Technical Data Integrity	<ul style="list-style-type: none"> • Outdated or inaccurate drawings and tower configuration data being used for planning or work 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Loss of critical information such as engineering reports, RF assessments or maintenance histories Multiple conflicting versions of procedures, SWMS and emergency plans in circulation Inadequate control of vendor and contractor documents integrated into the system Failure to communicate updates to standards, regulations or technical requirements to field personnel Poor traceability between incidents, corrective actions and document revisions 		[REDACTED]	
13. Health, Fitness for Work & Psychosocial Risk Management	<ul style="list-style-type: none"> Workers not medically fit for tower climbing, RF work or remote area deployment Inadequate management of substance use, including alcohol and drugs, in remote locations Psychological stress from working at height, isolation, tight deadlines or community opposition Fatigue and burnout due to high workload, travel and irregular patterns Reluctance to report health issues or near misses due to culture or job security concerns Insufficient support following critical incidents such as falls, structural failures or RF exposure events 	3H	[REDACTED]	2M
14. Incident Reporting, Investigation & Continuous Improvement	<ul style="list-style-type: none"> Under-reporting of incidents, near misses and RF or electrical exposure events Superficial investigations that fail to address systemic causes related to design, planning or management Failure to share lessons learned across tower sites and contractor groups 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Lack of monitoring of corrective action implementation and effectiveness Inadequate use of leading indicators to predict emerging risks (e.g. access breaches, minor equipment failures) Non-compliance with notifiable incident reporting obligations under WHS legislation 		[REDACTED]	
15. Emergency Preparedness, Response & Coordination	<ul style="list-style-type: none"> Lack of coordinated emergency response plans for falls, structural failures, RF overexposure or electrical incidents at towers Inadequate rescue capability for workers at height during assembly or disassembly Poor communication and role clarity between tower owners, broadcasters, contractors and emergency services Insufficient emergency equipment at remote tower locations (rescue kits, first aid, fire fighting equipment) Failure to test emergency plans through exercises and simulations Inaccurate or outdated emergency contact and site location information 	4A	[REDACTED]	2M

SAMPLE

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2011
 Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>
 Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>
 Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>
 Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

Victoria

Occupational Health and Safety Act 2004
 Occupational Health and Safety Regulations 2017
 Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>
 Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

New South Wales

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2025
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Western Australia

Work Health and Safety Act 2020
 Work Health and Safety Regulations 2022
 Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>
 Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>
 Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)
 Work Health and Safety Regulations 2012 (SA)
 Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>
 Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

Tasmania

Work Health and Safety Act 2012
 Work Health and Safety (Transitional and Consequential Provisions) Act 2012
 Work Health and Safety Regulations 2012
 Work Health and Safety (Transitional) Regulations 2012
 Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>
 Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.